



Pixel - oriented System
for Layout Analysis

EXTRACTOR USER - MANUAL

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1.0 GENERAL DESCRIPTION

The program EXTRACT generates a net-list-description (DOMOS-format) for a given pixel-oriented layout-specification. The user has to complete the output-file, i.e. voltage sources, output-lines and non-rectangular transistor-geometries.

REMARK:

DOMOS has been developed by H. Sibbert at Dortmund University in 1979.

2.0 INPUT RULES

This EXTRACTOR-program needs labels to work correct. Labels have to be specified in the layout. Creating the labels, the user has to pay attention to the following rules:

1. All VDD-conductions have to be labeled "VDD" literal (additional blanks).
2. All ground-conductions have to be labeled "GND" literal (additional blanks).
3. All input-conductions have to be labeled with the following format:

"IN<nr>"

<nr> means an integer between 1 and 99. Behind the number it isn't allowed to set any character (except blanks).

ATTENTION : Don't use a number twice !!!

4. All output-conductions have to be labeled with the following format:

"OUT<nr>"

<nr> means an integer between 1 and 99. Behind the number it isn't allowed to set any character (except blanks).

ATTENTION : Don't use a number twice !!!

5. Label-assignments have to be unique, i.e. a label must only be assigned to a point, where just one layer is present (exception of layer IMPLANT).

If one of these rules hasn't be considered, the program will detect a fatal error.

3.0 FILE-TRANSFORMING

After the program has ended successfully,

DON'T START THE DOMOS-SIMULATION YET !!!

First, the created pseudo-DOMOS-file must be transformed.

1. On lines, including non-rectangular transistors, the question-marks must be substituted by the channel width and length of these transistors. To find these transistors in the layout, a command-line follows which contains the transistor-coordinates :

\$? <x> <y>

<x> : absolute x-coordinate in the layout

<y> : absolute y-coordinate in the layout

2. All voltage sources must be included into the file. To find them in the layout, all input-conductions are marked in command-lines :

\$= E<nr> <label>

<nr> : number of the voltage source

<label> : assigned layout-label

3. To create the output-line, it is necessary to know the output-conductions. these conductions are noted in following command-lines :

\$= N<nr> <label>

<nr> : number of output-variable

<label> : assigned layout-label

4.

DON'T FORGET THE TIMER-, EXECUTE- AND END-LINE !!!

4.0 IMPLEMENTING NOTES

At present, this program is implemented for a pixel-oriented file created by NMOS-design-rules. Don't try to use it with an other technology, it doesn't work !

